SECTION 7
EPILOGUE

Because regulatory development is an evolving process, the final Table of Standards for VOC content limits differs slightly from the interim Table of Standards used in the analysis reported here. The main difference between the two sets of standards (see Table 7-1) is the addition of new categories in the final standards and the revision of content limits for other categories. These two dimensions of change are evaluated in turn below.

7.1 NEW PRODUCT CATEGORIES

The final standards added seven product categories not included in the interim standards. These are:

- calcimine recoaters
- concrete curing and sealing compounds
- concrete surface retarders
- conversion varnish
- faux finish/glazing
- stain controllers
- zone marking coatings

TABLE 7-1. TABLE OF STANDARDS: INTERIM VS. FINAL

Architectural Coatings Category	VOC Content Limit (g/L)		
	Interim (see Table 2-1)	Final	Difference
Antenna coatings	500	530	Limit increased
Antifouling coatings	450	450	
Antigraffiti coatings	600	600	
Bituminous coatings and mastics	500	500	
Bond breakers	600	600	
Calcimine recoater	NA	475	New category
Chalkboard resurfacers	450	450	
Concrete curing compounds	350	350	
Concrete curing and sealing compounds	NA	700	New category
Concrete protective coatings	400	400	
Concrete surface retarders	NA	780	New category
Conversion varnish	NA	725	New category
Dry fog coatings	400	400	
Extreme high-durability coatings	800	800	
Faux finishing/glazing	NA	700	New category
Fire-retardant/resistive coatings			
Clear	850	850	
Opaque	450	450	
Flat coatings, N.O.S.			
Exterior	250	250	
Interior	250	250	
Floor coatings	400	400	
Flow coatings	650	650	
Form release compounds	450	450	
Graphic arts coatings (sign paints)	500	500	
Heat reactive coatings	420	420	
High-temperature coatings	650	650	
Impacted immersion coatings	780	780	
Industrial maintenance coatings	450	450	

(continued)

TABLE 7-1. TABLE OF STANDARDS: INTERIM VS. FINAL (CONTINUED)

Architectural Coatings Category	VOC Content Limit (g/L)		
	Interim (see Table 2-1)	Final	Difference
Lacquers (including lacquer sanding sealers)	680	680	
Magnesite cement coatings	600	600	
Mastic texture coatings	300	300	
Metallic pigmented coatings	500	500	
Multicolor coatings	580	580	
Nonferrous ornamental metal lacquers	870	870	
Nonflat coatings, N.O.S.			
Exterior	380	380	
Interior	380	380	
Nuclear coatings	450	450	
Pretreatment wash primers	780	780	
Primers and undercoaters, N.O.S.	350	350	
Quick dry coatings			
Enamels	450	450	
Primers, sealers, and undercoaters	450	450	
Repair and maintenance thermoplastic coatings	650	650	
Roof coatings	250	250	
Rust preventive coatings	400	400	
Sanding sealers	550	550	
Sealers	400	400	
Shellacs			
Clear	650	730	Limit increased
Opaque	550	550	
Stains			
Clear and semitransparent	550	550	
Opaque	350	350	
Waterborne low solids	120	120	
Stain controllers	NA	720	New category

(continued)

TABLE 7-1. TABLE OF STANDARDS: INTERIM VS. FINAL (CONTINUED)

Architectural Coatings Category	VOC Content Limit (g/L)		
	Interim (see Table 2-1)	Final	Difference
Swimming pool coatings	600	600	
Thermoplastic rubber coatings and mastics	550	550	
Traffic marking paints	150	150	
Varnishes	450	450	
Waterproofing sealers and treatments			
Clear	600	600	
Opaque	400	600	Limit increased
Wood preservatives			
Below ground	550	550	
Clear and semitransparent	550	550	
Opaque	350	350	
Low solids	NA	120	
Zone marking coatings	NA	450	New category
Total New Categories	7		
Total Limit Changes	4		

By and large, new categories were added to accommodate specialty products that were previously included in other categories with lower (more stringent) VOC limits. As a result, some products that would be over the limit in the previous category, thereby necessitating a compliance action (reformulate, fee payment, withdrawal), are no longer constrained by the regulation. In these cases, the addition of the new categories reduces the number of required compliance actions, as a result, also cuts compliance costs and the quantity of emission reductions.

However, one of the new product categories, concrete curing and sealing (CCS) compounds, applies to products that were considered outside of the regulated universe in the economic analysis presented in this report. Therefore, the

compliance actions required for those products are not estimated in this analysis. The potential cost implications of that omission are discussed below.

Supplemental data could be obtained for only two of the seven new product categories. These data were gathered after proposal and are used here to estimate the likely impact of these new categories on regulatory costs.

One of the categories for which supplemental data were obtained is the zone markings category. First, we note that 46 products from the original survey data in the traffic paints category have VOC contents that are greater than 150 g/L (the final traffic marking paints content limit) and 450 g/L (the zone markings limit). These 46 products constitute the entire list of surveyed products that could potentially be relieved from compliance by the addition of the higher zone markings limit. According to data from the state of Texas, zone markings constitute approximately 9 percent of all traffic coatings.[83] We use this percentage to estimate the number of those 46 products that are zone markings, yielding an estimate of 4.1 (decimals are used to reflect an averaging effect). Using an expansion factor of 3.0 to reflect the scale of the national estimate of traffic coatings to the survey estimate, we estimate that 12.3 products nationwide can avoid compliance action due to the addition of the new zone markings category.

Data were gathered for 77 CCS products with a total product volume of 11.2 million liters.[84] Of these 77 products, 38 were determined to exceed the content limit of 700 g/L. As described in Section 2 of this report, the number of noncompliant coatings is reduced by a factor of one-third to estimate the total number of noncompliant coatings needing a compliance action (reformulation, fee, or withdrawal). After this adjustment, 25 of the 77 CCS products surveyed are estimated to require compliance action. The CCS data also

indicate an estimate of 37.8 million liters of CCS products nationwide. Taking the ratio of national CCS volume to the volume captured in the supplemental data collection (37.8/11.2) and multiplying by the 25 surveyed products needing compliance action yields a national estimate of CCS compliance actions of 85.6 products.

Taking the 85.6 additional compliance actions due to the new CCS category together with the 12.3 fewer compliance actions due to the zone markings category yields a net increase of 73.3 compliance actions. To approximate the social cost implications, we take the ratio of the total social costs from the architectural coatings market analysis ($20.2 million in Table 3-2) and divide by the total number of compliance actions in the analysis (2,345 products in Table 2-2) to get a social cost per compliance action of approximately $8,600. Multiplying this number by 74 compliance actions gives a social cost estimate of approximately $632,000 ($1991).

7.2 CATEGORIES WITH HIGHER VOC CONTENT LIMITS

Besides the additional categories, VOC content limits were higher (less stringent) in the final standards than in the interim standards for the following categories:

- antenna coatings
- shellacs, clear
- waterproofing sealers and treatments, opaque

The survey data indicate that nine products in these three product categories would have been noncompliant under the interim standards but are compliant under the final standards. Reducing the nine otherwise noncompliant products

by one-third yields an estimate of six compliance actions within the survey population that are avoided by the higher content limit in the final standards. Because the volume of surveyed products in these categories roughly equals the national sales estimates, the estimated number of avoided compliance actions nationwide is also six. Multiplying this number by the social cost estimate of $8,600 yields an estimate for the reduction of social costs caused by the new content limits of approximately $52,000. Subtracting this from the net cost increase quantified for the new product categories reduces the cost estimate to about $580,000 ($1991).

7.3 SUMMARY

The VOC content standards included in the final rule differ from the limits analyzed in this report. The difference between the two sets of standards are the inclusion of seven new product categories and an increase in the content limits (reduction in stringency) for three product categories.

Because of data limitations, only a subset of these changes lend themselves to quantification of potential costs impacts. The net quantified effect is a $580,000 increase in the estimate of annual social costs. However, this increase in cost must be considered against the unquantified decrease in costs from the expected fall in compliance due to the five other new categories. Without additional data, it is difficult to conclude whether the cost reductions from those categories will together outweigh the net cost increases quantified. Given that the social cost effects quantified here are less than 3 percent of the total estimated social costs of the regulation, factors that reduce (or reverse the sign) of these costs lead to the conclusion that the total social cost estimate is not greatly affected by the

differences between the interim standards used in the analysis and the final standards issued in the rule.

83. Telecon. Seagroves, Monica, Eastern Research Group, with Turner, Mel, Standard Paints. April 22, 1997. Comment clarification—zone category.

84. Facsimile. Sarsony, Chris, Eastern Research Group, with Murray, Brian, Research Triangle Institute. June 29, 1998. Calculation sheet: concrete curing and sealing compounds.